

Contents

1 Getting in Touch Again	1
Disturbances of Tactile Input	2
Assessing Sensation	2
Other Perceptual Disturbances	3
Problems Related to Disturbed Tactile/Kinaesthetic Input . .	4
Incongruous Behaviour and Movement	4
Spasticity	5
Additional Factors Contributing to Increased Tone	6
Ataxia or Tremor	13
Activities Performed Slowly and with Undue Effort	14
Dizziness and Nausea	14
Persistent Incontinence	15
Memory Disorders	15
Behavioural Problems	16
Inattention or Shortened Attention Span	17
Lack of Motivation	19
Enhancing Learning in the Treatment Programme	19
Choice of Therapeutic Intervention	21
Therapeutic Guiding	23
Pressing Juice from an Orange	23
Tidying up After Completion of a Task	25
Important Considerations for Guiding	27
The Position of the Therapist and the Patient	28
Comprehension of the Ultimate Goal of the Task	31
One Hand Always Provides Information About the Stability of the Support	32
An Instrument Is Only Necessary After A Problem Has Been Identified	34
Right to the Fingertips of Both Hands	35
The Patient's Hand Should Feel Light and Be Easy to Move	35
The Patient, Guided by the Therapist, Performs Every Step of the Task	36
Verbal Input Is Avoided During A Guided Activity	37

· The Therapist or Helper Must Feel Relaxed and Confident	37
Feeling Through an Intermediary Tool,	
Object or Sub-stance	37
Choosing a Suitable Task	39
Mechanical Factors	39
Degree of Complexity	39
Judging the Suitability of a Task	40
Interpretation of Behaviour Signals	41
Ways in Which Guiding Can Be Implemented	41
Therapeutic Guiding	41
Spontaneous Guiding as a Way of Assisting	42
Teaching Relatives How to Guide	42
Guiding Tasks in Different Clinical Situations	44
Guiding in the Intensive Care Unit	44
With the Patient Still in Bed	44
When the Patient Is Sitting Out of Bed	
for a Short Period	47
Guiding to Overcome Difficulties with Sitting Posture	47
The Effect of a Guided Task on the Patient's Sitting	
Posture	49
Guiding in Conjunction with Walking	49
While Regaining Independence in the Activities	
of Daily Living	53
Guiding While the Patient Is Getting Dressed	54
Increased Tactile Information to Maintain Lying Positions	57
The Problem of Incontinence	58
Urinary Incontinence	59
Considerations for Management	60
Faecal Incontinence and/or Constipation	62
Considerations for Management	63
Avoiding the Negatives Associated	
with Post-traumatic Epilepsy	65
Problems Related to PTE	66
The Seizures Per Se	66
Anticonvulsant Drug Therapy	66
The Attitude of Others Towards the Patient with PTE	67
Conclusion	69

2 Early Positioning in Bed and in the Wheelchair 70

Turning and Positioning in Bed	70
Supine Lying	70
Side Lying	72
Turning the Patient onto His Side	72
Positioning the Patient on His Side	79

Overcoming Difficulties in Maintaining the Position . . .	82
Prone Lying	84
Turning Over to Prone	86
Position in Prone	88
Sitting Out of Bed	90
Transferring the Patient from Bed to Wheelchair	91
Moving from Lying to Sitting	91
Moving to the Edge of the Bed	91
Recommended Transfers	91
Method 1. With the Patient's Arms Resting on the Therapist's Shoulders	93
Method 2. With the Patient's Arms Down in Front of Him	94
Method 3. With the Patient's Trunk Flexed	95
Method 4. Using A Sliding Board	95
Position in the Wheelchair	98
Choosing a Suitable Wheelchair	101
Points to Consider	101
Suggestions for Using Additional Support	102
Adjusting the Patient's Position in the Wheelchair	106
Lengthening the Time Spent in Sitting	108
Propelling the Wheelchair Independently	108
A Standard Wheelchair	108
An Electric Wheelchair	109
A Wheelchair with a One-Hand Drive Mechanism	110
The Importance of Turning and Positioning the Patient	111
Preventing Contractures and Deformity	111
Avoiding the Development of Pressure Sores	112
Improving the Circulation	113
Maintaining Mobility of the Spine	113
Improving Respiratory Function	114
Preventing Pain of Cervical Origin	115
Reducing Hypertonicity	115
Preventing Any Peripheral Nerve Damage	117
Accustoming the Patient to Being Moved	117
A Case in Point	117

3 Moving and Being Moved in Lying and Sitting 120

Requirements for Efficient Muscle Action	120
Possible Lengthening Mechanisms	122
The Importance of Mobilizing the Nervous System	122
Maintaining or Restoring Adaptive Lengthening of the Nervous System	122
The Tension Tests	123

The Nervous System Is a Continuum	124
Causing Pain Is Not The Aim	126
Persistent Pain of Undiagnosed Origin	127
Important Movement Sequences	128
Moving the Head	129
Moving the Ribcage	131
Rotating the Upper Trunk	134
Maintaining Full, Painfree Range of Motion	
in the Upper Limbs	135
Elevation of the Shoulder Through Flexion	135
Problem Solving	136
Abduction of the Arm including ULTT1	138
Problem Solving	139
Incorporating ULTT1 Mobilization in Other Activities ...	143
Turning the Upper Part of the Body	143
Rolling to One Side and Back Again	
in a Normal Pattern	143
Rotating the Trunk in Sitting with Arm Support	
Sideways	143
Mobilizing Abduction of the Arm in Sitting	144
Including ULTT 2 and ULTT 3 in the Treatment	148
ULTT 2	148
ULTT 3	151
Regaining Active Control of the Arm	155
Mobilizing the Trunk and Lower Limbs	157
Moving the Lower Trunk	157
Mobilizing Flexion of the Trunk and Lower Limbs	159
Trunk Flexion in Sitting	160
Flexing and Extending the Trunk in Sitting	162
Mobilizing the Trunk and Hips in Cross-Sitting	165
Mobilization in Long-Sitting	167
Movement Sequence for Mobilization	170
Problem Solving	170
Using LLTT 1 as a Treatment Technique	170
Using the Slump Test to Mobilize the Nervous System ..	173
The Slump Test with the Legs Abducted	175
Conclusion	177
A Case in Point	178

4 Early Standing	180
The Importance of Standing the Patient	180
Considerations Before Standing the Patient	181
Standing the Patient Upright	182
Using Knee-Extension Splints	182

Bandaging on the Splints	183
Bringing the Patient from Lying to Standing	185
Lifting the Patient Back onto the Bed	189
Using a Standing Frame	189
Using a Tilt Table	192
Problem Solving	194
Moving While Standing	203
Flexion of the Trunk in Standing	203
Therapeutic Value of Trunk Flexion in Standing	207
Conclusion	209
A Case In Point	209

5 Reanimating the Face and Mouth	213
Common Problems and Their Treatment	214
Problems	214
Prevention and Treatment	217
Handling Hints	217
Useful Grips	217
Illuminating the Inside of the Mouth	221
Wearing Rubber Gloves	222
Therapeutic Procedures	222
Mobilizing the Neck	223
Mobilizing Lateral Flexion	223
Achieving Flexion of the Upper Cervical Area	223
Moving the Face	224
Treating the Inside of the Mouth	226
The Notorious Bite Reflex	228
Problem Solving	229
Assessing and Treating the Mouth	232
Treating The Tongue	236
Passive Mobilization	236
Facilitating Movement Within the Mouth	237
Moving the Tongue Outside the Mouth	239
Stimulating Activity with an Orange Segment	240
Regaining Selective Movements of the Tongue	240
Oral Hygiene	245
Care of the Teeth and Gums	245
Cleaning the Teeth and the Oral Cavity	246
Brushing the Patient's Teeth	246
Rinsing the Mouth	249
Problem Solving	250
Starting to Eat and Drink Again	253
A Case in Point	254
When to Start Oral Feeding	254

Evaluating Dysphagia	254
Swallowing Difficulties	256
Guiding Factors and Safety Precautions	257
Facilitating Eating	261
Removal of Nasogastric Tube	261
Correct Posture	261
Manual Facilitation of Eating	262
Assistance from Relatives	264
Quality of Food	266
Appropriate Type of Food	266
Eating with Others	267
Problem Solving	267
Drinking	271
Manual Facilitation of Drinking	271
Problem Solving	274
Prolonged Postacute Tube Feeding	276
The Merits of PEG	277
Specific Advantages	278
Explaining PEG to Staff and Relatives	280
Placement of the Gastrostomy Tube	281
Removal of the Tube	283
Learning to Speak Again	283
Mobilizing the Larynx	285
Assisting Deep Expiration	286
Facilitating Phonation	287
Facilitating Different Vowel Sounds	289
Activating the Soft Palate	291
Providing an Alternative Means of Communicating	293
Movements to Signal "Yes" and "No"	293
Using an Alphabet Board	294
Complex Computer-Based Communication Augmentation Systems	295
Using a Voice Output Communication Aid (VOCA)	295
Conclusion	296

6 Overcoming Limitation of Movement, Contracture and Deformity

Reasons for the Development of Contractures	300
Overcoming Contractures and Restoring Functional Movement	304
Theoretical Principles	304
Putting the Principles into Action	305
Moving the Patient and Changing His Position Regularly	305

Providing Additional Information from the Environment	311
Mobilizing Adverse Mechanical Tension in the Nervous System	315
Eliminating Painful Stretching of Contracted Structures While Increasing Range of Motion	315
Serial Casting	316
Advantages of Serial Plastering over Other Methods	316
Requirements for Serial Plastering	317
General	317
Materials	318
Instruments	318
General Principles for Serial Casting	321
Serial Plastering of the Knee	323
Applying the Initial Cast	323
Changing the Cast	325
Preventing a Downward Sliding of the Cast	326
Avoiding Pressure on the Patient's Heel	326
Duration of Serial Casting	328
Maintaining Full Range of Knee Extension with a Hinged Cast	329
Serial Plastering for a Plantarflexed Foot	332
Applying the Cast	332
Preparing the Bottom of the Cast for Standing	337
Changing the Cast	340
Serial Plastering for the Flexed Elbow	342
Applying the Cast	342
Maintaining the Regained Elbow Extension	342
The Hinged Cast	344
Serial Plastering for the Flexed Wrist	346
Applying the Initial Cast	346
Changing the Cast	346
Maintaining Wrist Extension After Serial Casting	349
Making the Volar Splint	350
Surgical Intervention	352
Antispastic Drugs and Nerve Blocks	355
Nerve and Motor Point Blocks	356
Management of Fractures and Soft Tissue Injuries	357
Fractures	357
A Case in Point	358
Cervical Spine Injuries	359
Treatment	360
Other Soft Tissue Injuries	360
Heterotopic Ossification	361
The Appearance and Development of HO	361
Factors Which Could Cause or Precipitate the Development of HO	363

Loss of Protective Pain Responses	364
Repeated Minor Traumatic Injuries	365
Repeated Forcible Distention of Previously Immobilized Soft Tissues	365
Muscle Injury and Soreness Are Selectively Associated with Eccentric Contractions	366
HO Occurs Almost Exclusively in the Vicinity of Proximal Joints	367
Other Risk Factors Associated with HO	368
Considerations for the Prevention of HO	368
Preventative Measures	369
Overcoming the Problems of Existing HO	372
Treatment Measures	373
A Case in Point	377
HO Causing Loss of Elbow Flexion	380
Conclusion	380

7 Towards Attaining Independent Walking:

Preparation and Facilitation	382
Considerations for Treatment	382
When to Start Walking	383
A Case in Point	386
Preparatory Activities	388
Retraining Selective Movements of the Lower Limb	388
Selective Hip Extension (Bridging)	388
Selective Knee Extension	390
Selective Hip and Knee Extension During Weight Bearing	391
Regaining Balance Reactions and Selective Trunk Control	391
Returning to an Upright Position After Leaning Down to Either Side	393
Maintaining Balance with Weight Transferred Sideways in Sitting	393
Selective Lateral Flexion of the Lumbar Spine	398
Selective Flexion and Extension of the Lumbar Spine .	400
Mobilizing and Activating the Trunk	400
Flexion and Extension	400
Flexion/Rotation of the Trunk in Sitting	401
Rotation of the Lumbar Spine with the Abdominal Muscles Activated	402
The Facilitation of Walking	404
Stabilizing the Thorax and Eliciting Reactive Steps	405
Assisting Hip Extension and Avoiding a Hyperextended Knee	407

A Walking Frame with Wheels	410
Adapting the Walking Frame for Functional Tasks	413
Using Other Walking Aids	414
Facilitating Standing Up and Sitting Down	416
Problem Solving	416
Dealing with Additional Problems Which Prevent Walking .	418
A Case in Point	419
Learning to Go Up and Down Stairs	422
Going Up Stairs	422
Going Down Stairs	422
Recreational Activities Which Encourage Active Movement	423
Swimming	423
Cycling	424
Conclusion	424
 References	 426
 Subject Index	 434